

L62 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1998:73565 CAPLUS  
 DN 128:122672  
 TI Semiconductor IC device and fabrication thereof  
 IN Nagashima, Naoki  
 PA Sony Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM H01L021-8238  
 ICS H01L027-092; H01L029-78; H01L021-336  
 CC 76-3 (Electric Phenomena)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10027854	A2	19980127	JP 1996-180919	19960710 <--
PRAI	JP 1996-180919		19960710		

AB The invention relates to a semiconductor IC device, esp. a CMOSFET IC, wherein the use of Ge gate contact enables a unipolar-gate-structure surface-channeled NMOS and PMOS arrangement.  
 RL: DEV (Device component use); USES (Uses)  
 (Ge gate contact in CMOSFET IC app.)  
 RN 7440-56-4 CAPLUS  
 CN Germanium (7CI, 8CI, 9CI) (CA INDEX NAME)

Ge

RN 7631-86-9 CAPLUS  
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

RN 12033-89-5 CAPLUS  
 CN Silicon nitride (Si3N4) (8CI, 9CI) (CA INDEX NAME)

22aug03 08:51:15 User259284 Session D2352.3

File 2:INSPEC 1969-2003/Aug W2  
(c) 2003 Institution of Electrical Engineers  
\*File 2: Alert feature enhanced for multiple files, duplicates  
removal, customized scheduling. See HELP ALERT.

Set	Items	Description
S1	135	CI=(B DOP(S)GE EL) (S)NE=2
S2	31	CI=(IN DOP(S)GE EL) (S)NE=2
S3	35	CI=(AL DOP(S)GE EL) (S)NE=2
S4	189	S1:S3
S5	4	S4 AND GATE? ?
S6	10	S4 AND INSULAT????????
S7	14	S5:S6

File 342:Derwent Patents Citation Indx 1978-01/200328  
 (c) 2003 Thomson Derwent  
 \*File 342: Updates 200160-200209 replaced. See HELP NEWS 342.  
 Alert feature enhanced for multiple files, etc. See HELP ALERT.

Set	Items	Description
S1	1	PN=EP 1111686

? map ct

1 Select Statement(s), 10 Search Term(s)  
 Serial#SD484

1 SearchSaves, 10 Search Term(s)  
 ? ex

S2	4	Serial: SD484
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? map pn

3 Select Statement(s), 21 Search Term(s)  
 Serial#SD485

1 SearchSaves, 21 Search Term(s)  
 ? s s1

S3	1	S1
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? map ct/pn=

1 Select Statement(s), 10 Search Term(s)  
 Serial#SD486

1 SearchSaves, 10 Search Term(s)  
 ? s s2

S4	4	S2
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? map cg

1 Select Statement(s), 3 Search Term(s)  
 Serial#SD487

1 SearchSaves, 3 Search Term(s)  
 ? map cg/ct=

1 Select Statement(s), 3 Search Term(s)  
 Serial#SD488

1 SearchSaves, 3 Search Term(s)  
 ? exlex sd487  
 >>>Invalid syntax at or near SD487  
 ? ex;ex sd487

S5	4	Serial: SD488
S6	22	Serial: SD487

? s s5:s6

S7	26	S5:S6
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? map pn

8 Select Statement(s), 91 Search Term(s)  
 Serial#SD489

1 SearchSaves, 91 Search Term(s)  
 ? b 350 347 344;ex sd485;ex sd486  
 22aug03 08:49:22 User259284 Session D2352.2

SYSTEM:OS - DIALOG OneSearch  
 File 350:Derwent WPIX 1963-2003/UD,UM &UP=200354  
 (c) 2003 Thomson Derwent  
 File 347:JAPIO Oct 1976-2003/Apr(Updated 030804)  
 (c) 2003 JPO & JAPIO  
 \*File 347: JAPIO data problems with year 2000 records are now fixed.  
 Alerts have been run. See HELP NEWS 347 for details.  
 File 344:Chinese Patents Abs Aug 1985-2003/Mar  
 (c) 2003 European Patent Office

Set	Items	Description
S1	10	S1:S2
S2	19	PN=JP 10027854 + PN=JP 11003999 + PN=JP 11017182 + PN=JP 1-1087708 + PN=JP 11162916 + PN=JP 63198373 + PN=JP 7202178 + PN=JP 7288323 + PN=JP 73022022 + PN=WO 9414198

S3	47	S3:S9
S4	74	S1:S3
S5	4	S3 AND (GE OR GERMANIUM)
S6	19	S4 AND (GE OR GERMANIUM)

FILE 'CAPLUS' ENTERED AT 08:48:34 ON 22 AUG 2003  
 L1 18599 SEA ABB=ON PLU=ON "MISFET (TRANSISTORS)"/CT OR "MOSFET  
 (TRANSISTORS)"/CT OR MISFET OR MOSFET OR PMOS#### OR METAL-INS  
 ULATOR-SEMICONDUCTOR  
 L2 18599 SEA ABB=ON PLU=ON L1 OR "MOSFET (TRANSISTORS)"/CT  
 S L2 AND GERMANIUM/CN

FILE 'REGISTRY' ENTERED AT 08:52:33 ON 22 AUG 2003  
 L3 1 SEA ABB=ON PLU=ON GERMANIUM/CN

FILE 'CAPLUS' ENTERED AT 08:52:34 ON 22 AUG 2003  
 L4 63153 SEA ABB=ON PLU=ON L3  
 L5 308 SEA ABB=ON PLU=ON L2 AND L4  
 L6 117 SEA ABB=ON PLU=ON L5 AND INSULAT#####  
 L7 680 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (4A) INSULAT#####  
 L8 41 SEA ABB=ON PLU=ON L6 AND L7

FILE 'REGISTRY' ENTERED AT 08:54:40 ON 22 AUG 2003  
 L9 3 SEA ABB=ON PLU=ON (BORON OR INDIUM OR ALUMINUM)/CN

FILE 'CAPLUS' ENTERED AT 08:54:40 ON 22 AUG 2003  
 L10 413954 SEA ABB=ON PLU=ON L9  
 L11 160404 SEA ABB=ON PLU=ON L10 (L)USES/RL  
 L12 3 SEA ABB=ON PLU=ON L8 AND L11  
 D ALL TOT  
 L13 7943 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (2A) FILM  
 L14 8 SEA ABB=ON PLU=ON L8 AND L13  
 D ALL TOT  
 E MOA/RL  
 L15 26403 SEA ABB=ON PLU=ON L11 AND "MODIFIER OR ADDITIVE USE"/RL  
 E ES+ALL/CT  
 L16 1042 SEA ABB=ON PLU=ON L4 AND L15  
 L17 6 SEA ABB=ON PLU=ON L16 AND L6  
 L18 6 SEA ABB=ON PLU=ON L16 AND L7  
 L19 48 SEA ABB=ON PLU=ON L16 AND L13  
 L20 4 SEA ABB=ON PLU=ON L19 AND INSULAT#####  
 L21 5 SEA ABB=ON PLU=ON L19 AND (GE OR GERMANIUM) (6A) (SIO OR OXIDE  
 OR DIOXIDE OR SIO2)  
 L22 3 SEA ABB=ON PLU=ON L19 AND GATE  
 L23 11 SEA ABB=ON PLU=ON L12 OR L14  
 L24 21 SEA ABB=ON PLU=ON ((L17 OR L18) OR (L20 OR L21 OR L22)) NOT  
 L23

FILE 'WPIX' ENTERED AT 09:05:21 ON 22 AUG 2003  
 L25 1 SEA ABB=ON PLU=ON EP1111686/PN  
 L26 SEL PLU=ON L25 1- IC MC : 5 TERMS  
 L27 54659 SEA ABB=ON PLU=ON L26  
 L28 1515 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (1W) (ELECTRODE OR FILM OR  
 LAYER OR CONDUCT##### OR GATE)  
 L29 225 SEA ABB=ON PLU=ON L27 AND L28  
 L30 65 SEA ABB=ON PLU=ON L29 AND (GE OR GERMANIUM) (6A) (SIO OR OXIDE  
 OR DIOXIDE OR SIO2 OR INSULAT#####)  
 L31 6 SEA ABB=ON PLU=ON L30 AND ("P" OR PTYPE OR BORON OR INDIUM  
 OR ALUMINUM OR ALUMINIUM) (2A) (IMPUR##### OR ION OR CATION OR  
 CARRIER OR IMPLANT##### OR ATOM OR DOPE### OR DOPING OR  
 DOPANT)  
 D MAX 1-6  
 L32 0 SEA ABB=ON PLU=ON L30 AND ("P" OR PTYPE OR BORON OR INDIUM  
 OR ALUMINUM OR ALUMINIUM) (2A) (CONCENTRAT##### OR CONC OR CONCD  
 OR CONC OR DENSITY)  
 L33 15 SEA ABB=ON PLU=ON L29 AND (DOPE### OR DOPING OR DOPANT OR  
 IMPURITY OR ION## OR CATION### OR IMPLANT#### OR ATOM###) (2A) (C  
 ONCENTRAT##### OR CONC OR CONCD OR CONC OR DENSITY)  
 L34 13 SEA ABB=ON PLU=ON L33 NOT L31  
 D MAX 1-13  
 L35 32 SEA ABB=ON PLU=ON L30 AND PRY>1999  
 L36 5 SEA ABB=ON PLU=ON L30 AND PRY=1999  
 L37 5 SEA ABB=ON PLU=ON L30 AND PRY=1998  
 L38 1 SEA ABB=ON PLU=ON L35 AND (L36 OR L37)  
 L39 31 SEA ABB=ON PLU=ON L35 NOT L38  
 L40 34 SEA ABB=ON PLU=ON L30 NOT L39  
 L41 19 SEA ABB=ON PLU=ON L31 OR L33  
 L42 29 SEA ABB=ON PLU=ON L40 NOT L41  
 D MAX 1-29  
 L43 2928 SEA ABB=ON PLU=ON SHIMADA?/IN  
 L44 1024 SEA ABB=ON PLU=ON TAKIZAWA?/IN  
 L45 78960 SEA ABB=ON PLU=ON SEIKO?/PA

L46 6 SEA ABB=ON PLU=ON L43 AND L44  
L47 110 SEA ABB=ON PLU=ON L43 AND L45  
L48 70 SEA ABB=ON PLU=ON L44 AND L45  
L49 54659 SEA ABB=ON PLU=ON L26  
L50 5 SEA ABB=ON PLU=ON (L47 OR L48) AND L49  
L51 10 SEA ABB=ON PLU=ON L46 OR L50  
L52 10 SEA ABB=ON PLU=ON L51 NOT (L40 OR L41)  
L53 1 SEA ABB=ON PLU=ON L52 AND (GE OR GERMANIUM)  
D MAX  
L54 1 SEA ABB=ON PLU=ON (L47 OR L48) AND (GE OR GERMANIUM)  
L55 1 SEA ABB=ON PLU=ON JP07169958/PN

FILE 'CAPLUS' ENTERED AT 10:01:54 ON 22 AUG 2003  
L56 1 SEA ABB=ON PLU=ON JP1999-0037200/PRN,AP

FILE 'WPIX' ENTERED AT 10:02:46 ON 22 AUG 2003  
L57 1 SEA ABB=ON PLU=ON JP1999-0037200/PRN,AP

FILE 'INPADOC' ENTERED AT 10:03:21 ON 22 AUG 2003  
L58 1 SEA ABB=ON PLU=ON JP1999-0037200/PRN,AP

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FILE 'DPCI' ENTERED AT 15:46:28 ON 21 AUG 2003
L2      1 SEA ABB=ON PLU=ON WO2000079601/PN
        D ALL
L3      SEL PLU=ON L2 1- PN.D :      10 TERMS
L4      4 SEA ABB=ON PLU=ON L3
L5      SEL PLU=ON L4 1- PRN :      5 TERMS
L6      SEL PLU=ON L4 1- PN.D :     35 TERMS
L7      66 SEA ABB=ON PLU=ON L6
L8      SEL PLU=ON L7 1- PRN :     91 TERMS

FILE 'HCAPLUS' ENTERED AT 15:53:32 ON 21 AUG 2003
L9      3 SEA ABB=ON PLU=ON L5
L10     59 SEA ABB=ON PLU=ON L8
        S 7440-21-3/REG#

FILE 'REGISTRY' ENTERED AT 15:53:55 ON 21 AUG 2003
L11     1 SEA ABB=ON PLU=ON 7440-21-3/RN

FILE 'HCAPLUS' ENTERED AT 15:53:55 ON 21 AUG 2003
L12     367095 SEA ABB=ON PLU=ON L11
L13     2 SEA ABB=ON PLU=ON L9 AND L12
        D ALL HITSTR
        S 7440-56-4/REG#

FILE 'REGISTRY' ENTERED AT 15:54:26 ON 21 AUG 2003
L14     1 SEA ABB=ON PLU=ON 7440-56-4/RN

FILE 'HCAPLUS' ENTERED AT 15:54:26 ON 21 AUG 2003
L15     63153 SEA ABB=ON PLU=ON L14
L16     1 SEA ABB=ON PLU=ON L15 AND L9
        D ALL HITSTR
L17     9 SEA ABB=ON PLU=ON L10 AND L15
L18     8 SEA ABB=ON PLU=ON L17 NOT L16
        D ALL HITSTR 1-8

FILE 'STNGUIDE' ENTERED AT 15:56:20 ON 21 AUG 2003

FILE 'HCAPLUS' ENTERED AT 15:57:56 ON 21 AUG 2003
L19     13399 SEA ABB=ON PLU=ON IGFET OR IG FET OR INSULAT####(A)GATE##
L20     144 SEA ABB=ON PLU=ON L15 AND L19
L21     13942 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (2A) (LAYER OR FILM OR
        INSULAT#### OR ELECTRODE OR GATE)
L22     120 SEA ABB=ON PLU=ON L19 AND L21
L23     203 SEA ABB=ON PLU=ON L20 OR L22
L24     104367 SEA ABB=ON PLU=ON (IMPURITY OR ION OR ATOM OR DOP####) (2A) (IN
        DIUM OR ALUMINUM OR ALUMINIUM OR BORON OR "B" OR "P")
L25     43080 SEA ABB=ON PLU=ON P TYPE
L26     55219 SEA ABB=ON PLU=ON 1017 OR 1018 OR 1019 OR 1020
L27     178344 SEA ABB=ON PLU=ON 10(2W)17 OR 10(2W)18 OR 10(2W)19 OR
        10(2W)20
L28     10083 SEA ABB=ON PLU=ON ATOM####(2A) CONCENTRATION
L29     4938 SEA ABB=ON PLU=ON ATOMIC(2A) CONCENTRATION
L30     2615 SEA ABB=ON PLU=ON DOPED(W) (GE OR GERMANIUM)
L31     5275 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (W) (LAYER OR FILM OR
        INSULAT#### OR ELECTRODE OR GATE)
L32     4922 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (W) (LAYER OR FILM)

FILE 'REGISTRY' ENTERED AT 16:04:56 ON 21 AUG 2003
L33     19282 SEA ABB=ON PLU=ON O.SI/MF OR O SI/ELF

FILE 'HCAPLUS' ENTERED AT 16:05:06 ON 21 AUG 2003
L34     429129 SEA ABB=ON PLU=ON L33
L35     947 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (4A) ELECTRODE
L36     342 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (4A) GATE
L37     680 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (4A) INSULAT#####
L38     14210 SEA ABB=ON PLU=ON (GE OR GERMANIUM) (4A) (SIO OR SIO2 OR OXIDE
        OR DIOXIDE)
L39     1127 SEA ABB=ON PLU=ON L14(L) "P"
L40     3221 SEA ABB=ON PLU=ON L14(L) (INDIUM OR ALUMINUM OR ALUMINIUM OR
        BORON OR "B" OR "P")

FILE 'REGISTRY' ENTERED AT 16:08:07 ON 21 AUG 2003
L41     3 SEA ABB=ON PLU=ON (INDIUM OR ALUMINUM OR ALUMINIUM OR
        BORON)/CN

FILE 'HCAPLUS' ENTERED AT 16:08:19 ON 21 AUG 2003

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L42 413954 SEA ABB=ON PLU=ON L41  
 L43 2702 SEA ABB=ON PLU=ON L42(L) (GE OR GERMANIUM)  
 L44 2865 SEA ABB=ON PLU=ON L42(L) ("P")  
 L45 83 SEA ABB=ON PLU=ON L23 AND (L24 OR L25 OR L26 OR L27 OR L28  
 OR L29 OR L30 OR L31 OR L32)  
 L46 1 SEA ABB=ON PLU=ON WO2000079601/PN  
 L47 SEL PLU=ON L46 1- IC : 1 TERM  
 L48 10093 SEA ABB=ON PLU=ON L47  
 L49 168 SEA ABB=ON PLU=ON (L21 OR L14) AND L48  
 L50 300 SEA ABB=ON PLU=ON L49 OR ((H01L021-335 OR H01L029-78 OR  
 H01L029-786)/IC AND (L21 OR L14))  
 L51 89 SEA ABB=ON PLU=ON L50 AND (L24 OR L25 OR L26 OR L27 OR L28  
 OR L29 OR L30 OR L31 OR L32)  
 L52 152 SEA ABB=ON PLU=ON L45 OR L51  
 L53 104 SEA ABB=ON PLU=ON L52 AND L12  
 L54 23 SEA ABB=ON PLU=ON L52 AND L34  
 L55 83 SEA ABB=ON PLU=ON L52 AND L19  
 L56 96 SEA ABB=ON PLU=ON (L54 OR L55)  
 L57 30 SEA ABB=ON PLU=ON L52 AND L42  
 L58 65 SEA ABB=ON PLU=ON L52 AND (L35 OR L36 OR L37 OR L38 OR L39  
 OR L40)  
 L59 9 SEA ABB=ON PLU=ON L52 AND (L43 OR L44)  
 L60 14 SEA ABB=ON PLU=ON L52 AND (L26 OR L27 OR L28 OR L29)  
 L61 2 SEA ABB=ON PLU=ON L52 AND L30  
 L62 42 SEA ABB=ON PLU=ON L52 AND L24  
 L63 29 SEA ABB=ON PLU=ON L52 AND L25  
 L64 48 SEA ABB=ON PLU=ON L52 AND GATE ELECTRODE  
 L65 89 SEA ABB=ON PLU=ON L52 AND L31  
 L66 73 SEA ABB=ON PLU=ON L52 AND L32  
 L67 11 SEA ABB=ON PLU=ON L52 AND L26  
 L68 2 SEA ABB=ON PLU=ON L52 AND L27  
 L69 1 SEA ABB=ON PLU=ON L52 AND L28  
 L70 0 SEA ABB=ON PLU=ON L52 AND L29  
 L71 23 SEA ABB=ON PLU=ON L52 AND CONCENTRATION  
 L72 4 SEA ABB=ON PLU=ON L52 AND DENSITY  
 L73 8 SEA ABB=ON PLU=ON L52 AND L43  
 L74 1 SEA ABB=ON PLU=ON L52 AND L44  
 L75 13 SEA ABB=ON PLU=ON L52 AND (L26 OR L27)  
 L76 663 SEA ABB=ON PLU=ON L12 AND L15 AND L34 AND L42  
 L77 7 SEA ABB=ON PLU=ON L76 AND L19  
 L78 10 SEA ABB=ON PLU=ON L76 AND (H01L021-335 OR H01L029-78 OR  
 H01L029-786)/IC  
 L79 52 SEA ABB=ON PLU=ON L53 AND L55  
 L80 61 SEA ABB=ON PLU=ON L53 AND L56  
 L81 22 SEA ABB=ON PLU=ON L53 AND L57  
 L82 40 SEA ABB=ON PLU=ON L53 AND L58  
 L83 32 SEA ABB=ON PLU=ON L53 AND L62  
 L84 20 SEA ABB=ON PLU=ON L53 AND L63  
 L85 32 SEA ABB=ON PLU=ON L53 AND L64  
 L86 58 SEA ABB=ON PLU=ON L53 AND L65  
 L87 50 SEA ABB=ON PLU=ON L53 AND L66  
 L88 18 SEA ABB=ON PLU=ON L53 AND L71  
 L89 40 SEA ABB=ON PLU=ON (L79 OR L80 OR L81 OR L82 OR L83 OR L84 OR  
 L85 OR L86 OR L87 OR L88) AND ("P" OR PMOS##### OR PTYPE)  
 L90 83 SEA ABB=ON PLU=ON L55 AND L56  
 L91 52 SEA ABB=ON PLU=ON L79 AND L80  
 L92 13 SEA ABB=ON PLU=ON L79 AND L81  
 L93 28 SEA ABB=ON PLU=ON L91 AND L82  
 L94 26 SEA ABB=ON PLU=ON L91 AND L86  
 L95 21 SEA ABB=ON PLU=ON L91 AND L87  
 L96 10 SEA ABB=ON PLU=ON L13 OR L18  
 L97 81 SEA ABB=ON PLU=ON (L59 OR L60 OR L61) OR (L67 OR L68 OR L69)  
 OR (L72 OR L73 OR L74 OR L75) OR (L77 OR L78) OR L89 OR L92  
 L98 80 SEA ABB=ON PLU=ON L97 NOT L96  
 L99 22 SEA ABB=ON PLU=ON L98 AND GATE ELECTRODE  
 L100 51 SEA ABB=ON PLU=ON L98 AND INSULAT#####  
 L101 29 SEA ABB=ON PLU=ON L100 AND (DOP##### OR IMPUR#####)  
 L102 24 SEA ABB=ON PLU=ON L59 OR L61 OR (L68 OR L69) OR (L72 OR L73  
 OR L74) OR L77  
 L103 24 SEA ABB=ON PLU=ON L102 NOT L96  
 D ALL HITSTR TOT  
 L104 2 SEA ABB=ON PLU=ON L30 AND L52  
 D ALL HITSTR 1-2  
 L105 56 SEA ABB=ON PLU=ON L98 NOT (L103 OR L104)  
 L106 13 SEA ABB=ON PLU=ON L32 AND L105  
 D ALL HITSTR TOT  
 L107 84 SEA ABB=ON PLU=ON "P" DOPED(W) (GE OR GERMANIUM)



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L108      25920 SEA ABB=ON  PLU=ON  L19 OR (H01L021-335 OR H01L029-78 OR
          H01L029-786)/IC
L109      0 SEA ABB=ON  PLU=ON  L107 AND L108
L110      10791 SEA ABB=ON  PLU=ON  (INDIUM OR ALUMINUM OR ALUMINIUM OR BORON
          OR "B") (W)DOPED
L111      151 SEA ABB=ON  PLU=ON  (INDIUM OR ALUMINUM OR ALUMINIUM OR BORON
          OR "B") (W)DOPED(W) (GE OR GERMANIUM)
L112      0 SEA ABB=ON  PLU=ON  L111 AND L108
L113      0 SEA ABB=ON  PLU=ON  (L107 OR L111) AND GATE ELECTRODE
L114      4 SEA ABB=ON  PLU=ON  (L107 OR L111) AND INSULAT#####
          D ALL HITSTR 1-4
L115      17 SEA ABB=ON  PLU=ON  L106 OR L114
L116      43 SEA ABB=ON  PLU=ON  L105 NOT (L103 OR L104 OR L115)
L117      12 SEA ABB=ON  PLU=ON  L116 AND GATE ELECTRODE
L118      601 SEA ABB=ON  PLU=ON  (GE OR GERMANIUM) (2W) (ABOVE OR ATOP OR TOP
          OR OVER OR OVERL#####)
L119      1 SEA ABB=ON  PLU=ON  L118 AND L52
          D ALL HITSTR
L120      216 SEA ABB=ON  PLU=ON  L21 AND L14 (L) ELECTRODE
L121      8 SEA ABB=ON  PLU=ON  L120 AND L19
          D ALL HITSTR 1-8
L122      167 SEA ABB=ON  PLU=ON  L118 AND (L21 OR (L35 OR L36 OR L37))
L123      21 SEA ABB=ON  PLU=ON  (L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR
          L30) AND L122

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